U.S. Divisional Patent Application

For: COMPLEMENTARY DNAs

Inventor(s): Jean-Baptiste Dumas Milne Edwards;

Aymeric Duclert, Lydie Bougueleret Our Ref.: 36.US3.DIV

Express Mail Label No. EL821903714US

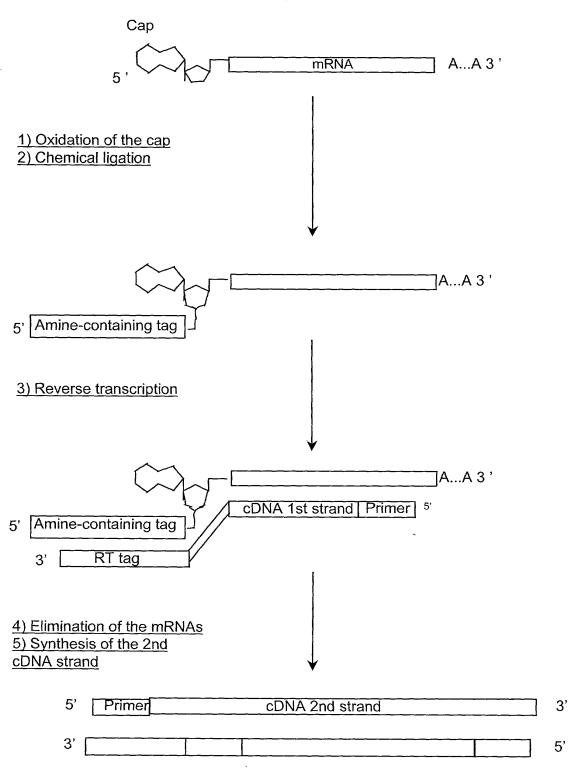


FIGURE 1

U.S. DIVISIONAL MATERIT Application
For: COMPLEMENTARY DNAS
Inventor(s): Jean-Baptiste Dumas Milne Edwards;
Aymeric Duclert, Lydie Bougueleret
Our Ref.: 36.US3.DIV
Express Mail Label No. EL821903714US
2/14

Minimum signal peptide score	false positive rate	false negative rate	proba(0.1)	proba(0.2)
3.5	0.121	0.036	0.467	0.664
4	0.096	0.06	0.519	0.708
4.5	0.078	0.079	0.565	0.745
5	0.062	0.098	0.615	0.782
5.5	0.05	0.127	0.659	0.813
6	0.04	0.163	0.694	0.836
6.5	0.033	0.202	0.725	0.855
7	0.025	0.248	0.763	0.878
7.5	0.021	0.304	0.78	0.889
8	0.015	0.368	0.816	0.909
8.5	0.012	0.418	0.836	0.92
9	0.009	0.512	0.856	0.93
9.5	0.007	0.581	0.863	0.934
10	0.006	0.679	0.835	0.919

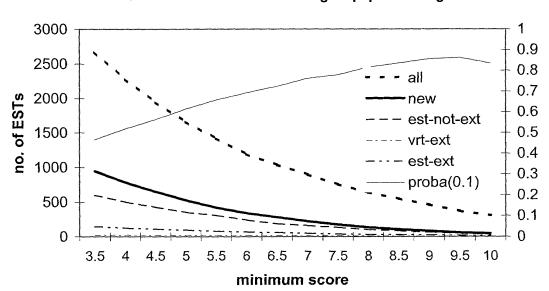
U.S. Divisional Patent Application For: COMPLEMENTARY DNAS

Inventor(s): Jean-Baptiste Dumas Milne Edwards; Aymeric Duclert, Lydie Bougueleret

Our Ref.: 36.US3.DIV

Express Mail Label No. EL821903714US

Influence of minimum score on signal peptide recognition



U.S. Divisional Patent Application

For: Complementary DNAs Inventor(s): Jean-Baptiste Dumas Milne Edwards; Aymeric Duclert, Lydie Bougueleret Our Ref.: 36.US3.DIV Express Mail Label No. EL821903714US 4/14

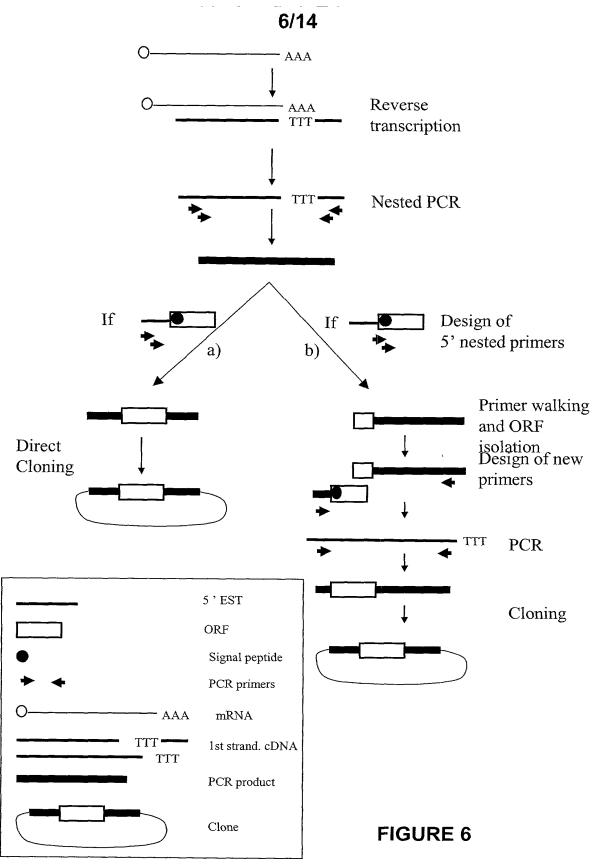
Minimum signal peptide score	All ESTs	New ESTs	ESTs matching public EST closer than 40 bp from beginning	ESTs extending known mRNA more than 40 bp	ESTs extending public EST more than 40 bp
3.5	2674	947	599	23	150
4	2278	784	499	23	126
4.5	1943	647	425	22	112
5	1657	523	353	21	96
5.5	1417	419	307	19	80
6	1190	340	238	18	68
6.5	1035	280	186	18	60
7	893	219	161	15	48
7.5	753	173	132	12	36
8	636	133	101	11	29
8.5	543	104	83	8	26
9	456	81	63	6	24
9.5	364	57	48	6	18
10	303	47	35	6	15

C.S. D.V.SIONA: . a.en. Application
For: COMPLEMENTARY DNAs
Inventor(s): Jean-Baptiste Dumas Milne Edwards;
Aymeric Duclert, Lydie Bougueleret
Our Ref.: 36.US3.DIV
Express Mail Label No. EL821903714US
5/14

Tissue	All ESTs	New ESTs	ESTs matching public EST closer than 40 bp from beginning	ESTs extending known mRNA more than 40 bp	ESTs extending public EST more than 40 bp
Brain	329	131	75	3	24
Cancerous prostate	134	40	37	1	6
Cerebellum	17	9	1	0	6
Colon	21	11	4	0	0
Dystrophic muscle	41	18	8	0	1
Fetal brain	70	37	16	0	1
Fetal kidney	227	116	46	1	19
Fetal liver	13	7	2	0	0
Heart	30	15	7	0	1
Hypertrophic prostate	86	23	22	2	2
Kidney	10	7	3	0	0
Large intestine	21	8	4	0	1
Liver	23	9	6	0	0
Lung	24	12	4	0	1
Lung (cells)	57	38	6	0	4
Lymph ganglia	163	60	23	2	12
Lymphocytes	23	6	4	0	2
Muscle	33	16	6	0	4
Normal prostate	181	61	45	7	11
Ovary	90	57	12	1	2
Pancreas	48	11	6	0	1
Placenta	24	5	1	0	0
Prostate	34	16	4	0	2
Spleen	56	28	10	0	1
Substantia nigra	108	47	27	1	6
Surrenals	15	3	3	1	o
Testis	131	68	25	1	8
Thyroid	17	8	2	0	2
Umbilical cord	55	17	12	1	3
Uterus	28	15	3	0	2
Non tissue-specific	568	48	177	2	28
Total	2677	947	601	23	150

U.S. Divisional Patent Application For: COMPLEMENTARY DNAs Inventor(s): Jean-Baptiste Dumas Milne Edwards; Aymeric Duclert, Lydie Bougueleret Our Ref.: 36.US3.DIV

Express Mail Label No. EL821903714US



U.S. Divisional Patent Application
For: COMPLEMENTARY DNAs
Inventor(s): Jean-Baptiste Dumas Milne Edwards;

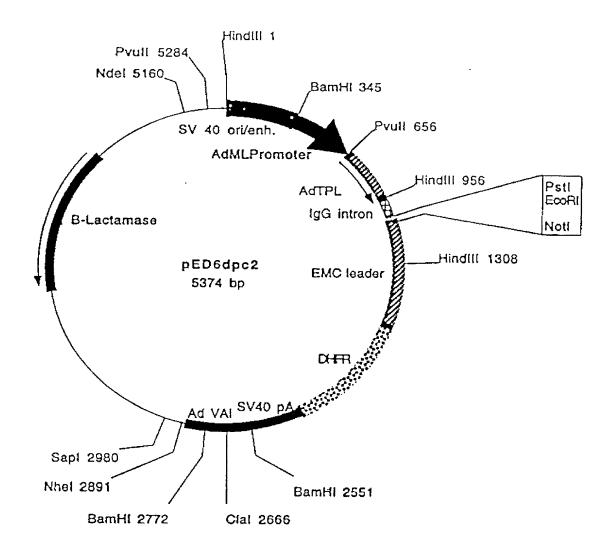
Aymeric Duclert, Lydie Bougueleret

Our Ref.: 36.US3.DIV

Express Mail Label No. EL821903714US

7/1/

7/14



Plasmid name: pED6dpc2

Plasmid size: 5347 bp

Comments/References: pED6dpc2 is derived from pED6dpc1 by insertion of a new polylinker to facilitate cDNA cloning. SST cDNAs are cloned between EcoRI and Not1. pED vectors are described in Kaufman et al. (1991), NAR 19:4485-4490.

U.S. Divisional Patent Application
For: COMPLEMENTARY DNAs
Inventor(s): Jean-Baptiste Dumas Milne Edwards;
Aymeric Duclert, Lydie Bougueleret
Our Ref.: 36.US3.DIV
Express Mail Label No. EL821903714US
8/14

8/14

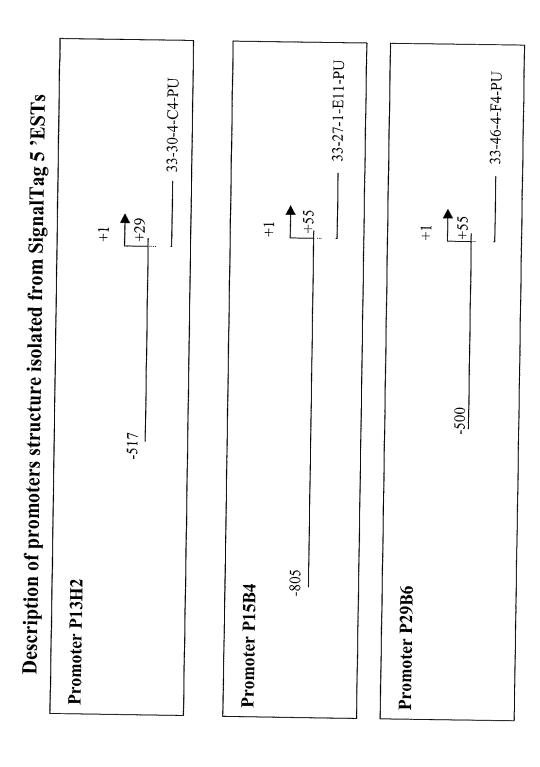


FIGURE 8

U.S. Divisional Patent Application For: COMPLEMENTARY DNAS

Inventor(s): Jean-Baptiste Dumas Milne Edwards;

Aymeric Duclert, Lydie Bougueleret Our Ref.: 36.US3.DIV

Express Mail Label No. EL821903714US

9/14

Description of Transcription Factor Binding Sites present on promoters isolated from SignalTag sequences

Promoter sequence P13H2 (546 bp):						
Matrix	Position	Orientation	Score	Length	Sequence	
CMYB_01	-502	+	0.983	9	TGTCAGTTG	
MYOD_Q6	-501		0.961	10	CCCAACTGAC	
S8_01	-444	-	0.960	11	AATAGAATTAG	
S8_01	-425	+	0.966	11	AACTAAATTAG	
DELTAEF1_01	-390	_	0.960	11	GCACACCTCAG	
GATA_C	-364	-	0.964	11	AGATAAATCCA	
CMYB_01	-349	+	0.958	9	CTTCAGTTG	
GATA1_02	-343	+	0.959	14	TTGTAGATAGGACA	
GATA_C	-339	+	0.953	11	AGATAGGACAT	
TAL1ALPHAE47_01	-235	+	0.973	16	CATAACAGATGGTAAG	
TAL1BETAE47_01	-235	+	0.983	16	CATAACAGATGGTAAG	
TAL1BETAITF2_01	-235	+	0.978	16	CATAACAGATGGTAAG	
MYOD_Q6	-232	-	0.954	10	ACCATCTGTT	
GATA1_04	-217	-	0.953	13	TCAAGATAAAGTA	
IK1_01	-126	+	0.963	13	AGTTGGGAATTCC	
IK2_01	-126	+	0.985	12	AGTTGGGAATTC	
CREL_01	-123	+	0.962	10	TGGGAATTCC	
GATA1_02	-96	+	0.950	14	TCAGTGATATGGCA	
SRY_02	-41	-	0.951	12	TAAAACAAAACA	
E2F_02	-33	+	0.957	8	TTTAGCGC	
MZF1_01	-5	_	0.975	8	TGAGGGGA	

U.S. Divisional Patent Application For: COMPLEMENTARY DNAs

ror: COMPLEMENTARY DNAS
Inventor(s): Jean-Baptiste Dumas Milne Edwards;
Aymeric Duclert, Lydie Bougueleret
Our Ref.: 36.US3.DIV
Express Mail Label No. EL821903714US
10/14

10/14

Promoter sequence P15B4 (861bp) :						
Matrix	Position	Orientation	Score	Length	Sequence	
NFY_Q6	-748		0.956	11	GGACCAATCAT	
MZF1_01	-738	+	0.962	8	CCTGGGGA	
CMYB_01	-684	+	0.994	9	TGACCGTTG	
VMYB_02	-682	-	0.985	9	TCCAACGGT	
STAT_01	-673	+	0.968	9	TTCCTGGAA	
STAT_01	-673		0.951	9	TTCCAGGAA	
MZF1_01	-556		0.956	8	TTGGGGGA	
IK2_01	-451	+	0.965	12	GAATGGGATTTC	
MZF1_01	-424	+	0.986	8	AGAGGGGA	
SRY_02	-398		0.955	12	GAAAACAAAACA	
MZF1_01	-216	+	0.960	8	GAAGGGGA	
MYOD_Q6	-190	+	0.981	10	AGCATCTGCC	
DELTAEF1_01	-176	+	0.958	11	TCCCACCTTCC	
S8_01	5		0.992	11	GAGGCAATTAT	
MZF1_01	16	_	0.986	8	AGAGGGGA	

FIGURE 9 (cont)

For: COMPLEMENTARY DNAs
Inventor(s): Jean-Baptiste Dumas Milne Edwards;
Aymeric Duclert, Lydie Bougueleret
Our Ref.: 36.US3.DIV
Express Mail Label No. EL821903714US
11/14

11/14

Promoter sequence P29B6 (555 bp) :						
Matrix	Position	Orientation	Score	Length	Sequence	
ARNT_01	311	+	0.964	16	GGACTCACGTGCTGCT	
NMYC_01	-309	+	0.965	12	ACTCACGTGCTG	
USF_01	-309	+	0.985	12	ACTCACGTGCTG	
USF_01	-309	_	0.985	12	CAGCACGTGAGT	
NMYC_01	-309	-	0.956	12	CAGCACGTGAGT	
MYCMAX 02	-309	_	0.972	12	CAGCACGTGAGT	
USF_C	-307	+	0.997	8	TCACGTGC	
USF_C	-307	_	0.991	8	GCACGTGA	
MZF1_01	-292	_	0.968	8	CATGGGGA	
ELK1_02	-105	+	0.963	14	CTCTCCGGAAGCCT	
CETS1P54_01	-102	+	0.974	10	TCCGGAAGCC	
<u>AP1_Q4</u>	-42	_	0.963	11	AGTGACTGAAC	
AP1FJ_Q2	-42	_	0.961	11	AGTGACTGAAC	
PADS_C	45	+	1.000	9	TGTGGTCTC	

FIGURE 9 (cont)

U.S. Divisional Patent Application
For: COMPLEMENTARY DNAs

Inventor(s): Jean-Baptiste Dumas Milne Edwards;

Aymeric Duclert, Lydie Bougueleret

Our Ref.: 36.US3.DIV

Express Mail Label No. EL821903714US

12/14

12/14

97.8% identity in 92 aa overlap

10 20 40 30 50 60 SEQ ID NO:120 MASLGHILVFCVGLLTMAKAESPKEHDPFTYDYQSLQIGGLVIAGILFILGILIVLSRRC SEQ ID NO:180 MAPLHHILVFCVGLLTMAKAESPKEHDPFTYDYQSLQIGGLVIAGILFILGILIVLSRRC 20 30 40 50 60 70 80 90 SEQ ID NO:120 RCKFNQQQRTGEPDEEEGTFRSSIRRLSTRRR SEQ ID NO:180 RCKFNQQQRTGEPDEEEGTFRSSIRRLSTRRR 80 90

U.S. Divisional Patent Application For: COMPLEMENTARY DNAS

Inventor(s): Jean-Baptiste Dumas Milne Edwards;

Aymeric Duclert, Lydie Bougueleret

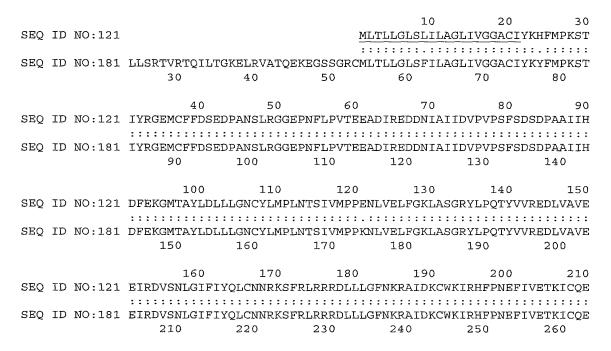
Our Ref.: 36.US3.DIV

Express Mail Label No. EL821903714US

13/14

13/14

98.6% identity in 210 aa overlap



SEQ ID NO:128 GDIP

SEQ ID NO:182 GTSHK

U.S. DIVISIONAL Patent Application
For: COMPLEMENTARY DNAS
Inventor(s): Jean-Baptiste Dumas Milne Edwards;
Aymeric Duclert, Lydie Bougueleret
Our Ref.: 36.US3.DIV
Express Mail Label No. EL821903714US

14/14

14/14

83.4% identity in 211 aa overlap SEQ ID NO:128 LWWFWLLWTVLILFSCCCAFRHRRAKLRLQ SEQ ID NO:182 ELCPGVNTQPYLCETGHCCGETGCCTYYYELWWFWLLWTVLILFSCCCAFRHRRAKLRLQ SEQ ID NO:128 QQQRQREINLLAYHGACHGAGPFPTGSLLDLRLLSTFKPPAYEDVVHRPGT**PPPPY**TVAP SEQ ID NO:182 QQQRQREINLLAYHGACHGAGPVPTGSLLDLRLLSAFKPPAYEDVVHHPGT**PPPPY**TVGP SEQ ID NO:128 GRPLTASSEQTCCSSSSSCPAHFEGTNVEGVSSHQSAPPHQEGEPGAGVTPASTPPSCRY SEQ ID NO:182 GYPWTTSSECTRCSSESSCSAHLEGTNVEGVSSQQSALPHQEGEPRAGLSPVHIPPSCRY SEQ ID NO:128 RRLTGDSGIELCPCPASGEGEPVKEVRVSATLPDLEDYSPCALPPESVPQIFPMGLSSSE SEQ ID NO:182 RRLTGDSGIELCPCPDSSEGEPLKEARASASQPDLEDHSPCALPPDSVSQVPPMGLASSC